

## EFIX S 98 GASOLINE <sup>3, 4, 9</sup>

### USE: FUEL FOR SPARK IGNITION ENGINES

PROPERTY	UM	LIMITS		TEST METHOD
		Min.	Max.	
RON Antiknock value		98,0	-	ASTM D 2699-15 <sup>2</sup> SR EN ISO 5164:14 <sup>2</sup> / EN ISO 5164:14 <sup>2</sup> / ISO 5164:14 <sup>2</sup>
MON Antiknock value		86,0	-	SR EN ISO 5163:14 <sup>2</sup> / EN ISO 5163:14 <sup>2</sup> ISO 5163:14 <sup>2</sup> / ASTM D 2700-16 <sup>2</sup>
Lead content	mg/l	-	5,0	SR EN 237:05 <sup>2</sup> / EN 237:04 <sup>2</sup> / ASTM D 3237-12 <sup>2</sup>
Density (at 15 oC)	kg/m <sup>3</sup>	720,0	775,0	ASTM D 4052-15 <sup>2</sup> / ASTM D 1298-12b SR EN ISO 3675:02 / SR EN ISO 3675:02 / C91:05 EN ISO 3675:98 / ISO 3675:98 SR EN ISO 12185:03 <sup>2</sup> / EN ISO 12185:96 <sup>2</sup> / ISO 12185:96 <sup>2</sup>
Sulfur content	mg/kg	-	10,0	SR EN ISO 20846-12 <sup>2</sup> / EN ISO 20846-11 <sup>2</sup> / ISO 20846-11 <sup>2</sup> SR EN ISO 20884-11 <sup>2</sup> / EN ISO 20884-11 <sup>2</sup> / ISO 20884-11 <sup>2</sup> ASTM D 5453-16e1 <sup>2</sup>
Manganese content	mg/l	-	2,0	EN 16135:11 <sup>2</sup> / SR EN 16135:12 <sup>2</sup> / IP 592:11 <sup>2</sup>
Oxidation stability	minute	360	-	SR EN ISO 7536:01 <sup>2</sup> / EN ISO 7536:96 <sup>2</sup> / ISO 7536:94 <sup>2</sup> ASTM D 525-12a <sup>2</sup>
Actual gums content (washed with solvents)	mg/100 ml	-	5	SR EN ISO 6246:00 <sup>2</sup> / EN ISO 6246:97 <sup>2</sup> / ISO 6246:95 <sup>2</sup> ASTM D 381-12 <sup>2</sup>
Copper strip corrosion rating (3 h at 50 °C)	evaluate		class 1	SR EN ISO 2160-03 <sup>2</sup> / EN ISO 2160-98 <sup>2</sup> / ISO 2160-98 <sup>2</sup> ASTM D 130-12 <sup>2</sup>
Aspect		Clear and transparent		Visual inspection
Type of hydrocarbons content	% (v/v)			
- Olefins		-	18,0	SR EN 15553:07 <sup>2</sup> / EN 15553:07 <sup>2</sup> / SR EN ISO 22854:14 <sup>2</sup>
- Aromatics		-	35,0	ASTM D 1319-15 <sup>2</sup> / ASTM D 6839-13
Benzene content	% (v/v)	-	1,00	SR EN 12177:01 / SR EN 12177:01 / AC:02 EN 12177:98 / SR EN ISO 22854:14 <sup>2</sup> / ASTM D 6839-13
Oxygen content	% (m/m)	-	2,7	SR EN ISO 22854:14 <sup>2</sup>
Oxygenate compounds content	% (v/v)			
Methanol		-	3,0	
Ethanol <sup>5</sup>		-	5,0	
Iso-propyl alcohol		}	See note 7	SR EN ISO 22854:14 <sup>2</sup> ASTM D 6839-13
Iso-butyl alcohol				
Tert-butyl alcohol				
Ethers (5 or more C atoms)				
Other oxygenates				
Bio-component <sup>6</sup>	% (v/v)	To be reported		% (v/v) bio = % (v/v) bio-ethanol + 0,47x% (v/v) bio-ETBE
Distillation				
Evaporated at 70 °C, E70	% (v/v)			
- Summer <sup>1</sup>		20,0	48,0	
- Winter <sup>1</sup>		22,0	50,0	
- Transition <sup>1</sup>		20,0	50,0	ASTM D 86-15 <sup>2</sup>
Evaporated at 100 °C, E100 (Summer <sup>1</sup> , Winter <sup>1</sup> , transition <sup>1</sup> )	% (v/v)	46,0	71,0	SR EN ISO 3405:11 <sup>2</sup>
Evaporated at 150 °C, E150 (Summer <sup>1</sup> , Winter <sup>1</sup> , transition <sup>1</sup> )	% (v/v)	75,0	-	EN ISO 3405:11 <sup>2</sup> ISO 3405:11 <sup>2</sup>
Final boiling point, FBP	°C	-	210	
Residue of distillation	% (v/v)	-	2,0	

Vapour Pressure, VP	kPa		
- Summer <sup>1</sup>	45,0	60,0 <sup>8</sup>	SR EN 13016-1:08 <sup>2</sup> / EN 13016-1:07 <sup>2</sup>
- Winter <sup>1</sup>	60,0	90,0	ASTM D 5191-15 <sup>2</sup> / ASTM D 6378-10
- transition <sup>1</sup>	45,0	90,0	
Volatility Index, VLI	Calculation (10 VP + 7 E70)		
- Summer <sup>1</sup>	-	-	
- Winter <sup>1</sup>	-	-	
- transition <sup>1</sup>	-	1150	

**NOTES:** 1) Summer - from May, 1 to September, 30; Transition: March 15 to April 30, October 1 to November 15; Winter - from November, 16 to March, 14 2) Accredited test by RENAR 3) The product contains a set of multipurpose additives which prevent deposits on valves and injection nozzles, having favourable effects upon the fuel consumption and emissions 4) Certified product by RAR 5) The ethanol, as a blending component used, will be in accordance with EN 15376 in force at the time of product batch manufacturing 6) The bio-component content will respect the laws in force at the time of product batch manufacturing 7) Volume blending restricted by 2,7% (m/m) maximum oxygen content 8) Tabel 1 - The permitted vapour pressure waiver during summer time for ethanol content and only if ethanol is biological origin 9) Commercial product name: EFIX S GASOLINE 98, EN 228.

**Table 1** – Vapour pressure waiver permitted for unleaded gasoline containing bioethanol

Bioethanol content, % v/v	Vapour Pressure Waiver Permitted, kPa
0	0
1	3,7
2	6,0
3	7,2
4	7,8
5	8,0

Bioethanol content, % v/v	Vapour Pressure Waiver Permitted, kPa
6	8,0
7	7,9
8	7,9
9	7,8
10	7,8

**Quality control:** control is done on lot/batch.

Each batch will be tank size (max. 5,000 tonnes). The lot (batch) will have product of same type.

During testing, the product must comply with all parameters depicted in standard specification for corresponding product/type. If not, the batch is rejected.

In case of litigious, the quality control will be done using the samples kept for these cases, sampling being done in accordance with the sampling procedure.

**Sampling procedure:** according to SR EN ISO 3170:2004/SR EN ISO 3170:2004/C91:05/ASTM D 4057-12

Information about handling, transportation and storage: according to “Safety Data Sheet” FDS-2.1 T.

**Quality-Environment-Occupational Health and Safety Integrated Management System** is certified according to the following standards:

- ISO 9001:2008
- ISO 14001:2004
- BS OHSAS 18001:2007

The test lab is accredited by RENAR, in compliance with SR EN ISO/CEI 17025:2005.

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